UNIVERSITY OF PENNSYLVANIA MEDICAL CENTER

Department of Pathology & Laboratory Medicine

Molecular Genetic Pathology Fellowship

Description: The goal of the Penn MGP program is to train fellows in the practice of molecular pathology and genomics, the application and interpretation of molecular laboratory techniques, and diagnostic laboratory administration. Over the course of the one-year ACGME accredited fellowship the fellow gains experience in the application of molecular pathology through service work, didactic lectures, resident teaching, involvement in laboratory administration, and by hands-on test development. Fellows trained as pathologists are exposed to clinical genetic counseling through rotations in pediatric and adult clinical genetics and biochemical genetics. Time is also spent in the cancer cytogenetics, prenatal cytogenetics and molecular HLA typing laboratories. Additional electives are available. On the Molecular Pathology service the fellow assumes significant and increasing clinical and laboratory responsibility in a state of the art molecular pathology laboratory that performs a broad range of molecular testing in the areas of inherited disorders, hematologic and solid tumor molecular oncology, infectious diseases, and identity testing. Service entails the involvement of the fellow and one or two Pathology residents in all aspects of molecular testing in order to provide optimal patient care. Fellows assist in the training of the residents during the first four weeks of each three-month block, with the residents gradually taking on greater responsibility for the service work. Requests for molecular testing are assessed on a daily basis to ensure the appropriateness of the requested test in the context of the clinical scenario. Test results are reviewed in preparation for reporting by the faculty and communication of critical results to health care providers. Daily afternoon case review sessions are an excellent opportunity for teaching and learning about the application of molecular technologies and the role of molecular diagnosis in clinical decision-making. Molecular Anatomic Pathology, an innovative clinical service at Penn Medicine, plays a critical role in the molecular evaluation of solid tumors. The principal function of the Molecular Anatomic Pathology service is identifying and processing suitable paraffin-embedded tissue for molecular and cytogenetic analysis. Through close interactions with this service, the fellow will gain practical firsthand experience in the application of molecular diagnostics in solid tumors. During the year, opportunities to participate in the daily signout of the molecular anatomic pathology service will be available to interested individuals. Over the course of the fellowship, trainees will be directly exposed to hundreds of cases in a wide variety of diseases and clinical situations.

Requirements: One MGP fellowship position is available each year. Candidates must be Board-eligible in either AP and/or CP or Medical Genetics and have passed the USMLE Part 3 exam prior to the start of the program. They must also be licensed or eligible for licensure in Pennsylvania. Prior experience in genetics and/or molecular biology is recommended.

Types and Numbers of Appointments: One position is available each year.

Facilities: Penn's Molecular Pathology operation is a full-service, CAP-accredited and CLIA-certified molecular diagnostic laboratory staffed with highly trained professional medical technologists. Faculty members collectively have more than 40 years practicing and teaching experience in Molecular Pathology and most are Board-Certified in Molecular Genetic Pathology. The laboratory uses a spectrum of molecular techniques and platforms to evaluate nucleic acids isolated from patient samples, including real-time polymerase chain reaction, capillary electrophoresis, pyrosequencing and liquid bead arrays. Notable areas of expertise include identity testing, molecular virology, Bayesian analysis for inherited disorders, and molecular profiling of common liquid and solid tumors. Traditional karyotyping as well as a wide range of fluorescent in-situ hybridization (FISH) assays and SNP arrays are performed in the Department's cancer cytogenetics lab. The Penn Center for Personalized diagnostics is a new CLIA-certified laboratory that will provide clinical next-generation sequencing services.

Stipends: Stipend is commensurate with the year of postgraduate clinical training.

Staff:

Molecular Pathology

Vivianna Van Deerlin, MD, PhD (Lab and Fellowship Director); **Warren Pear**, MD, PhD; **Robert B. Wilson**, MD, PhD; **Christopher Watt**, MD, PhD.

Molecular Oncology

Antonia Sepulveda, MD, PhD.

Applications: Each academic year begins on the first of July. Application forms can be obtained by calling (215) 662-6550 or may be downloaded from the laboratory website. Applications must be submitted and all references received by December 31st,18 months prior to the start of the program. The position will be offered by March 1 of the year preceding the program start date. This is subject to change if a Match program for MGP is instituted. Candidates considered for the program will be asked

to interview with the program director and selected faculty and staff. Vivianna Van Deerlin, Associate Professor, University of Pennsylvania Health System, Department of Pathology and Laboratory Medicine, 3400 Spruce Street, 7.103 Founders, Philadelphia, PA 19104
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Web site: http://pathology.uphs.upenn.edu/ClinicalServices/ClinicalPathology/cs_clinpath_molec.aspx

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